

WHAT IS CLAIMED IS:

1. An optical head comprising a plurality of laser light sources different in wavelength from each other, a mirror for permitting reflection of a plurality of laser beams as emitted from the laser light sources, and optical convergence means for focusing the plurality of laser beams reflected off from the mirror into optical spots on an optical information storage medium, wherein said mirror includes a plurality of reflection planes for reflection of laser beams of different wavelengths, and wherein said plurality of reflection planes are in nonparallel to each other to thereby allow the plurality of laser beams incoming from different directions to be reflected off toward substantially the same direction.

2. The optical head structure according to claim 1, wherein said mirror is disposed as a rise-up mirror for use in introducing a laser beam into said optical convergence means.

3. An optical head comprising a plurality of semiconductor laser chips, a collimating lens for converting a plurality of laser beams radiated from the semiconductor laser chips to parallel rays of light, and optical convergence means for focusing the plurality of laser beams into an optical spot on an optical information storage medium, wherein said optical head further comprises:

a beam reshaping prism for enlarging a width

of each of said laser beams in a direction along an array of said plurality of semiconductor laser chips, and wherein said beam reshaping prism is disposed between said collimate lens and said optical convergence means.

4. The optical head according to claim 3, wherein said beam reshaping prism has a reflection plane and is disposed as a riseup mirror for introduction of a laser beam into said optical convergence means.

5. An optical head comprising a plurality of semiconductor laser chips different in wavelength, a collimating lens for converting a plurality of laser beams radiated from the semiconductor laser chips to parallel rays of light, a mirror for permitting reflection of the plurality of laser beams, and optical convergence means for focusing the plurality of laser beams as reflected from said mirror into optical spots on an optical information storage medium, wherein said optical head further comprises:

a beam reshaping prism for enlarging a width of each said laser beam in a direction along an array of said plurality of semiconductor laser chips, wherein said beam reshaping prism is disposed between said collimating lens and said optical convergence means, wherein said mirror includes a plurality of reflection planes for reflection of laser beams of different wavelengths, and wherein said plurality of reflection planes are in nonparallel to each other thereby allowing

the plurality of laser beams incoming from different directions to be reflected toward substantially the same direction.

6. The optical head according to claim 5, wherein said beam reshaping prism is disposed as a riseup mirror for use in introducing a laser beam into said optical convergence means.

7. An optical information media recording/reproduction apparatus for recording information on an optical information storage medium or for reproducing information recorded thereon, said apparatus comprising:

an optical head for recording information on the optical storage medium by irradiating laser light thereto or for reproducing information recorded on said optical storage medium by receiving light as reflected from said optical storage medium, and

an access mechanism for controlling a position for illumination of laser light from said optical head onto said optical storage medium,

wherein said optical head includes a plurality of laser light sources of different wavelengths, a mirror for permitting reflection of a plurality of laser beams radiated from the laser light sources, optical convergence means for focusing the plurality of laser beams as reflected from the mirror into optical spots on an optical information storage medium, and an optical detector,

wherein said mirror has a plurality of

reflection planes for use in permitting reflection of laser beams of different wavelengths, said plurality of reflection planes being in non-parallel to each other to thereby allow the plurality of laser beams incoming from different directions to be reflected toward substantially the same direction, and

wherein the optical information media recording/reproduction apparatus is operable to generate a focus error detection signal and a track deviation detection signal while letting the optical detector receive reflection light of laser light falling onto said optical information storage medium and then cause said access mechanism to control a position for illumination of laser light of said optical head onto the optical information storage medium to thereby perform one of recording information on the optical information storage medium and playing back information as recorded thereon.

8. The optical information media recording/reproduction apparatus according to claim 7, wherein said mirror is disposed as a riseup mirror for use in introducing a laser beam into said optical convergence means.

9. An optical information media recording/reproduction apparatus for recording information on an optical information storage medium or for reproducing information recorded thereon, said apparatus comprising:
an optical head for recording information on

the optical storage medium by irradiating laser light thereto or for reproducing information recorded on said optical storage medium by receiving light as reflected from said optical storage medium, and

an access mechanism for controlling a position for illumination of laser light from said optical head onto said optical storage medium,

wherein said optical head includes a plurality of semiconductor laser chips, a collimating lens for converting a plurality of laser beams radiated from the semiconductor laser chips to parallel rays of light, optical convergence means for focusing the plurality of laser beams into optical spots on the optical information storage medium, an optical detector, and a beam reshaping prism for enlarging a width of each said laser beam in a direction along an array of said plurality of semiconductor laser chips, said beam reshaping prism being disposed between said collimating lens and said optical convergence means, and

wherein the optical information media recording/reproduction apparatus is operable to generate a focus error detection signal and a track deviation detection signal while letting the optical detector receive reflection light of laser light falling onto said optical information storage medium and then cause said access mechanism to control a position for illumination of laser light of said optical head onto the optical information storage medium to thereby

perform one of recording information on the optical information storage medium and playing back information as recorded thereon.

10. The optical information media recording/reproduction apparatus according to claim 9, wherein said beam reshaping prism has a reflection plane and is disposed as a riseup mirror for introduction of a laser beam to said optical convergence means.

11. An optical information media recording/reproduction apparatus for recording information on an optical information storage medium or for reproducing information recorded thereon, said apparatus comprising:

an optical head for recording information on the optical storage medium by irradiating laser light thereto or for reproducing information recorded on said optical storage medium by receiving light as reflected from said optical storage medium, and

an access mechanism for controlling a position for illumination of laser light from said optical head onto said optical storage medium,

wherein said optical head includes a plurality of semiconductor laser chips of different wavelengths, a collimating lens for converting a plurality of laser beams radiated from the semiconductor laser chips to parallel rays of light, a mirror for permitting reflection of the plurality of laser beams, optical convergence means for focusing a plurality of laser beams reflected from the mirror into optical spots on

the optical information storage medium, an optical detector, and a beam reshaping prism for enlarging a width of each said laser beam in a direction along an array of said plurality of semiconductor laser chips, said beam reshaping prism being disposed between said collimate lens and said optical convergence means, said mirror having a plurality of reflection planes for use in permitting reflection of laser beams of different wavelengths, and said plurality of reflection planes being arranged in nonparallel to each other to thereby allow the plurality of laser beams incoming from different directions to be reflected off toward substantially the same direction, and

wherein the optical information media recording/reproduction apparatus is operable to generate a focus error detection signal and a track deviation detection signal while letting the optical detector receive reflection light of laser light falling onto said optical information storage medium and then cause said access mechanism to control a position for illumination of laser light of said optical head onto the optical information storage medium to thereby perform one of recording information on the optical information storage medium and playing back information as recorded thereon.

12. The optical information media recording/reproduction apparatus according to claim 11, wherein said beam reshaping prism is disposed as a riseup mirror

for introduction of a laser beam into said optical convergence means.